



# AMPK $\alpha$ 1 Polyclonal Antibody

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                              |
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| <b>Catalog No</b>         | BYab-30680                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Isotype</b>            | IgG                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Reactivity</b>         | Human;Mouse;Rat                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Applications</b>       | WB;IHC;IF;ELISA                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Gene Name</b>          | PRKAA1                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Protein Name</b>       | 5'-AMP-activated protein kinase catalytic subunit alpha-1                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Immunogen</b>          | The antiserum was produced against synthesized peptide derived from human AMPK1. AA range:451-500                                                                                                                                                                                                                                                                                                                            |
| <b>Specificity</b>        | AMPK $\alpha$ 1 Polyclonal Antibody detects endogenous levels of AMPK $\alpha$ 1 protein.                                                                                                                                                                                                                                                                                                                                    |
| <b>Formulation</b>        | Liquid in PBS containing 50% glycerol, 0.5% BSA and 0.02% sodium azide.                                                                                                                                                                                                                                                                                                                                                      |
| <b>Source</b>             | Polyclonal, Rabbit,IgG                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Purification</b>       | The antibody was affinity-purified from rabbit antiserum by affinity-chromatography using epitope-specific immunogen.                                                                                                                                                                                                                                                                                                        |
| <b>Dilution</b>           | Western Blot: 1/500 - 1/2000. Immunohistochemistry: 1/100 - 1/300. Immunofluorescence: 1/200 - 1/1000. ELISA: 1/10000. Not yet tested in other applications.                                                                                                                                                                                                                                                                 |
| <b>Concentration</b>      | 1 mg/ml                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Purity</b>             | ≥90%                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Storage Stability</b>  | -20°C/1 year                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Synonyms</b>           | PRKAA1; AMPK1; 5'-AMP-activated protein kinase catalytic subunit alpha-1; AMPK subunit alpha-1; Acetyl-CoA carboxylase kinase; ACACA kinase; Hydroxymethylglutaryl-CoA reductase kinase; HMGCR kinase; Tau-protein kinase PRKAA1                                                                                                                                                                                             |
| <b>Observed Band</b>      | 65kD                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Cell Pathway</b>       | Cytoplasm . Nucleus . In response to stress, recruited by p53/TP53 to specific promoters. .                                                                                                                                                                                                                                                                                                                                  |
| <b>Tissue Specificity</b> | Brain,Intestine,Liver,Mammary gland,Platelet,Testis                                                                                                                                                                                                                                                                                                                                                                          |
| <b>Function</b>           | catalytic activity:ATP + a protein = ADP + a phosphoprotein.,cofactor:Magnesium.,enzyme regulation:Binding of AMP results in allosteric activation, inducing phosphorylation on Thr-174 by STK11 in complex with STE20-related adapter-alpha (STRAD alpha) pseudo kinase and CAB39. Also activated by phosphorylation by CAMKK2 triggered by a rise in intracellular calcium ions, without detectable changes in the AMP/ATP |

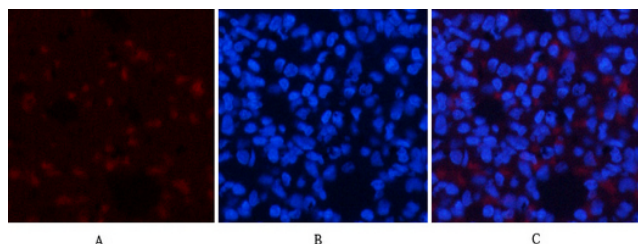
**Nanjing BYabs science technology Co.,Ltd**



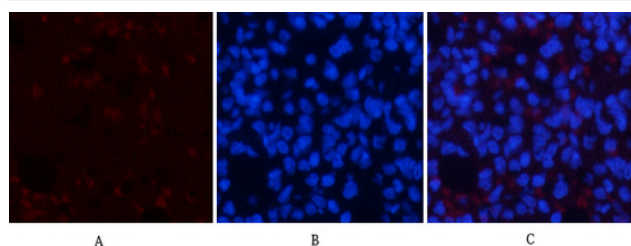
|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                           | ratio.,function:Responsible for the regulation of fatty acid synthesis by phosphorylation of acetyl-CoA carboxylase. It also regulates cholesterol synthesis via phosphorylation and inactivation of hormone-sensitive lipase and hydroxymethylglutaryl-CoA reductase. Appears to act as a metabolic stress-sensing protein kinase switching off biosynthetic pathways when cellular ATP levels are depleted and when 5'-AMP rises in response to fuel limitation and/or hypoxia. This is a catalytic s                                                                                                                                                                   |
| Background                | The protein encoded by this gene belongs to the ser/thr protein kinase family. It is the catalytic subunit of the 5'-prime-AMP-activated protein kinase (AMPK). AMPK is a cellular energy sensor conserved in all eukaryotic cells. The kinase activity of AMPK is activated by the stimuli that increase the cellular AMP/ATP ratio. AMPK regulates the activities of a number of key metabolic enzymes through phosphorylation. It protects cells from stresses that cause ATP depletion by switching off ATP-consuming biosynthetic pathways. Alternatively spliced transcript variants encoding distinct isoforms have been observed. [provided by RefSeq, Jul 2008], |
| matters needing attention | Avoid repeated freezing and thawing!                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Usage suggestions         | This product can be used in immunological reaction related experiments. For more information, please consult technical personnel.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |



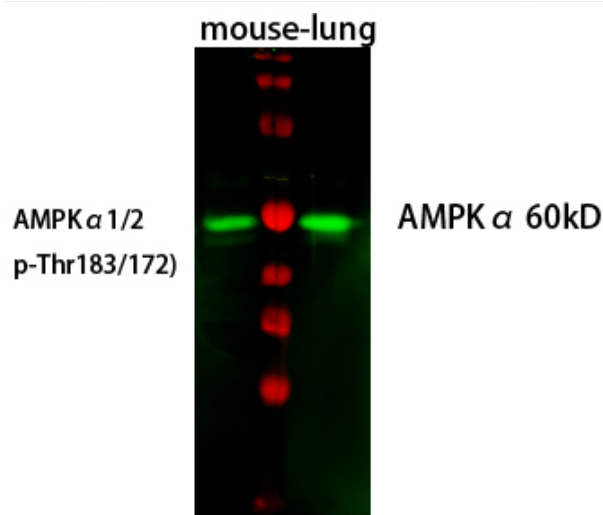
## Products Images



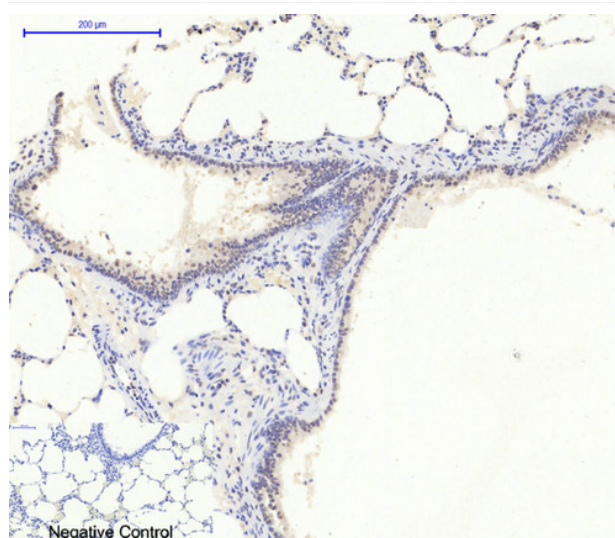
Immunofluorescence analysis of rat-lung tissue. 1, AMPK $\alpha$ 1 Polyclonal Antibody (red) was diluted at 1:200 (4°C, overnight). 2, Cy3 labeled Secondary antibody was diluted at 1:300 (room temperature, 50 min). 3, Picture B: DAPI (blue) 10 min. Picture A: Target. Picture B: DAPI. Picture C: merge of A+B



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Western Blot analysis of mouse-lung cells using primary antibody diluted at 1:1000 (4°C overnight). Secondary antibody: Goat Anti-rabbit IgG IRDye 800 (diluted at 1:5000, 25°C, 1 hour). Cell lysate was extracted by Minute™ Plasma Membrane Protein Isolation and Cell Fractionation Kit (SM-005, Invent biotech, MN, USA).



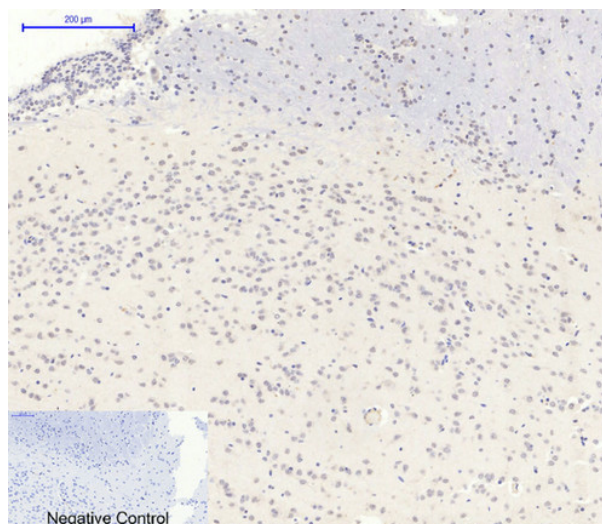
Immunohistochemical analysis of paraffin-embedded Rat-lung tissue. 1, AMPK $\alpha$ 1 Polyclonal Antibody was diluted at 1:200 (4°C, overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C, 20 min). 3, Secondary antibody was diluted at 1:200 (room temperature, 30 min). Negative control was used by secondary antibody only.

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Immunohistochemical analysis of paraffin-embedded Rat-brain tissue. 1, AMPK $\alpha$ 1 Polyclonal Antibody was diluted at 1:200 (4°C, overnight). 2, Sodium citrate pH 6.0 was used for antibody retrieval (>98°C, 20min). 3, Secondary antibody was diluted at 1:200 (room temperature, 30min). Negative control was used by secondary antibody only.